APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/710,519	07/17/2004	Vince I. Grolmusz		4518

37888 7590 01/31/2008		EXAMINER
VINCE GROLMUSZ		CERVETTI, DAVID GARCIA
UGRON GABOR U.8.		
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HUNGARY	2136	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/710,519	GROLMUSZ, VINCE I.
	Examiner	Art Unit	
	David García Cervetti	2136	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *17 July 2004*.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-6* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1,2 and 5* is/are rejected.

7) ☒ Claim(s) *3,4 and 6* is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on *17 July 2004* is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date *7/17/04*.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-6 are pending and have been examined.

Information Disclosure Statement

2.   The listing of references in the specification is not a proper information disclosure

statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other

information submitted for consideration by the Office, and MPEP § 609.04(a) states,

"the list may not be incorporated into the specification but must be submitted in a

separate paper." Therefore, unless the references have been cited by the examiner on

form PTO-892, they have not been considered. Furthermore, a proper information

disclosure statement needs to comply with 37 CFR 1.98(a)(2), which requires a legible

copy of each cited foreign patent document; each non-patent literature publication or

that portion which caused it to be listed; and all other information or that portion which

caused it to be listed.

Specification

3.   The abstract of the disclosure is objected to because it is too long. Correction is

required. See MPEP § 608.01(b).

Applicant is reminded of the proper language and format for an abstract of the

disclosure.

The abstract should be in narrative form and generally limited to a single

paragraph on a separate sheet within the range of 50 to 150 words. It is important that

the abstract not exceed 150 words in length since the space provided for the abstract

on the computer tape used by the printer is limited. The form and legal phraseology

often used in patent claims, such as "means" and "said," should be avoided. The

abstract should describe the disclosure sufficiently to assist readers in deciding whether

there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information

given in the title. It should avoid using phrases which can be implied, such as, "The

disclosure concerns," "The disclosure defined by this invention," "The disclosure

describes," etc.

4.   The disclosure is objected to because of the following informalities: "CCC" (par.

7). These terms have not been defined. Appropriate correction is required.

Claim Objections

5.   Claim 6 is objected to because of the following informalities: the parenthesis in,

for example, "coordinate i (where integer i is between1 and n) is not" need to be

removed for the limitations to be considered. Appropriate correction is required.

Double Patenting

6.   Claims 1-6 are provisionally rejected under the judicially created doctrine of

obviousness-type double patenting as being unpatentable over claims 1-9 of Copending

application 10/709,969. Although the conflicting claims are not identical, they are not

patentably distinct from each other because

-        a method for dense and secure transmission of signals and information

        using a small number of channels, the method comprising

-         a) choosing an appropriate integer modulus m, positive integer n,

        corresponding to the number of bits to be en-coding, and generating n x

n matrix A with integer elements where the diagonal elements of A differs

modulo m from all the other elements of their column, and where A can

be written as matrix product BC where B is an n x t matrix, C is a t x n

matrix, where t is less than n;

- (b) encoding the length-n vector x to the length-t vector xB, by vector-

matrix product modulo m;

- (c) transmitting the coordinates of the length-t vector xB on t channels;

- (d) retrieving the coordinates of the vector by computing xBC=xA by

vector-matrix product modulo m;

- (e) for every coordinate of vector xBC=xA, filtering out the terms added

as the linear combination of other coordinates of vector x **(claim 1,**

instant application) is analogous to

- a method for dense encoding and retrieving of information represented in

electronic computers, the method comprising

- (a) choosing an appropriate modulus m, positive integer n, corresponding

to the number of bits to be encoding, and generating n x n matrix A with

integer elements where the diagonal elements of A differs modulo m

from all the other elements of their column, and where A can be written

as matrix product BC where B is an n x t matrix, C is a t x n matrix, where

t is less than n;

- (b) encoding the length-n vector x to the length-t vector xB, by vector-

matrix product modulo m;

- (c) storing the length-t vector xB in physical computational devices;

- (d) retrieving the stored vector by computing xBC=xA by vector-matrix

  product modulo m;

- (e) for every coordinate of vector xBC=xA, filtering out the terms added

  as the linear combination of other coordinates of vector x **(claim 1,**

  copending application);

7. The main difference being limitation c, where the instant application transmits the coordinates, while copending application stores it in computational devices, implying that somehow the coordinates must have been transmitted.

8. This is a <u>provisional</u> obviousness-type double patenting rejection because the conflicting claims of the instant application have not in fact been patented.

9. Claims 1-9 of Copending application 10/709,969 contain every element of claims 1-6 of the instant application and thus anticipate the claims of the instant application. Claims 1-6 of the instant application therefore are not patently distinct from the copending application claims and as such are unpatentable for obvious-type double patenting. A later patent/application claim is not patentably distinct from an earlier claim if the later claim is anticipated by the earlier claim.

10. "A later patent claim is not patentably distinct from an earlier patent claim if the later claim is obvious over, or anticipated by, the earlier claim. <u>In re Longi</u>, 759 F.2d at 896, 225 USPQ at 651 (affirming a holding of obviousness-type double patenting because the claims at issue were obvious over claims in four prior art patents); <u>In re</u> <u>Berg</u>, 140 F.3d at 1437, 46 USPQ2d at 1233 (Fed. Cir. 1998) (affirming a holding of

obviousness-type double patenting where a patent application claim to a genus is

anticipated by a patent claim to a species with that genus). "ELI LILLY AND COMPANY

v BARR LABORATORIES, INC., United States Court of Appeals for the Federal Circuit,

ON PETITION FOR REHEARING EN BANC (DECIDED: May 30, 2001).

11.   "Claim 12 and Claim 13 are generic to the species of invention covered by claim

3 of the patent. Thus, the generic invention is "anticipated" by the species of the

patented invention. Cf., Titanium Metals Corp. v. Banner, 778 F.2d 775, 227 USPQ 773

(Fed. Cir. 1985) (holding that an earlier species disclosure in the prior art defeats any

generic claim) 4. This court's predecessor has held that, without a terminal disclaimer,

the species claims preclude issuance of the generic claim. In re Van Ornum, 686 F.2d

937, 944, 214 USPQ 761, 767 (CCPA 1982); Schneller, 397 F.2d at 354. Accordingly,

absent a terminal disclaimer, claims 12 and 13 were properly rejected under the

doctrine of obviousness-type double patenting." (In re Goodman (CA FC) 29 USPQ2d

2010 (12/3/1993).

Claim Rejections - 35 USC § 112

12.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

13.   Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite

for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention.

    Claim 5 recites the limitation "the communicating nodes" in lines 1-3. There is

insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

14.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

15.   **Claims 1, 2, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable**

over Liu (US Patent Application Publication 2003/0186650), and further in view of

Kutin (NPL "Constructing Large Set Systems with Given Intersection Sizes

Modulo Composite Numbers").

Regarding claim 1, Liu teaches

a method for dense and secure transmission of signals and information using a

small number of channels, the method comprising

(b) encoding the length-n vector x to the length-t vector xB, by vector-matrix

product modulo m **(pars. 45-46, signal vectors and propagation coefficients)**;

(c) transmitting the coordinates of the length-t vector xB on t channels **(pars. 27-**

29, transmit over channel);

(d) retrieving the coordinates of the vector by computing xBC=xA by vector-

matrix product modulo m **(pars. 34-36, vector product)**;

(e) for every coordinate of vector xBC=xA, filtering out the terms added as the

linear combination of other coordinates of vector x **(pars. 50-53, decomposition step**

to determine original matrices).

Liu also teaches and suggests generating a matrix of propagation coefficients **(pars. 43-48)** and Kutin teaches choosing an appropriate integer modulus m, positive integer n, corresponding to the number of bits to be en-coding, and generating n x n matrix A with integer elements where the diagonal elements of A differs modulo m from all the other elements of their column, and where A can be written as matrix product BC where B is an n x t matrix, C is a t x n matrix, where t is less than n **(pp. 479-481)**.

Regarding claim 2, the combination of Liu and Kutin teaches wherein the modulus m is non-prime- power composite positive integer, the diagonal elements of matrix A are non-zero modulo any prime-divisors of m, and each non-diagonal elements of matrix A are zero modulo for at least one prime divisor of m **(Kutin, pp. 479-481)**.

Regarding claim 5, the combination of Liu and Kutin teaches wherein between the communicating nodes R_1, R_2, ...,R_n and S_1, S_2, ...,S_n two networks are constructed, in the first network nodes S_1, S_2, ...,S_n play the role of the senders and R_1, R_2, ..., R_n play the role of the receivers, and in the second network R_1, R_2 ..,R_n play the role of the senders and S_1, S_2, ...,S_n play the role of the receivers **(pars. 49-52, transmitters)**.

Allowable Subject Matter

16.   Claims 3-4 and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

17.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to David García Cervetti whose telephone number is (571)272-5861. The examiner can normally be reached on Monday-Tuesday and Thursday-Friday.

18.   If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nasser Moazzami can be reached on (571)272-4195. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

19.   Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David García Cervetti/